

ATTACHMENT KDM-B

*****PROPRIETARY*****

**Before the
Federal Communications Commission
Washington, D.C. 20554**

IN THE MATTER OF)	
<i>Unbundled Access to Network Elements</i>)	WC Docket No. 04-313
)	
<i>Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers</i>)	CC Docket No. 01-338
)	

AFFIDAVIT OF KEVIN MOSIER

I, Kevin Mosier, hereby make oath that the following facts, as set forth in this affidavit, are true to the best of my knowledge, information and belief.

1. I am over eighteen years of age, and am competent to testify and have personal knowledge of the facts as set out in this Affidavit.

2. I am an Economist III with the Telecommunications Division of the Staff of the Maryland Public Service Commission. My business address is 6 St. Paul Street, Baltimore, Maryland 21202.

3. I was a witness in Case 8983 before the Maryland Public Service Commission ("MDPSC") captioned *In the Matter of the Implementation of the Federal Communication Commission's Triennial Review Order*.

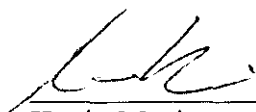
4. On March 12, 2004, I filed testimony in Case 8983 on behalf of the MDPSC Technical Staff.

5. On March 16, 2004, the Maryland Public Service Commission stayed Case 8983.

6. I affirm that the above-referenced pre-filed testimony was drafted by me or under my supervision and is true and accurate.

7. I prepared portions of the Summary of the Maryland Public Service Commission Staff's Impairment Analysis filed in the above-captioned matter and reviewed the entire document. I affirm that the Summary accurately summarizes the testimony I prepared for Case 8983.

I hereby declare under penalty of perjury that the foregoing Affidavit signed this 29 day of September, 2004, is true and correct to the best of my knowledge.



Kevin Mosier
Regulatory Economist
Telecommunications Division
Public Service Commission of Maryland
6 St. Paul Street, 16th Floor
Baltimore, Maryland 21202

STATE OF MARYLAND)
) TO WIT:
CITY OF BALTIMORE)

I HEREBY CERTIFY that on this 29 day of September, 2004, before me, a Notary Public for said State and City, personally appeared the affiant and made oath in due form of law that the matters and facts hereinabove set forth are true to the best of her knowledge, information and belief.



NOTARY PUBLIC

My Commission Expires: 3/1/07

**BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND**

**IN THE MATTER OF THE IMPLEMENTATION OF
THE FEDERAL COMMUNICATION COMMISSION'S
TRIENNIAL REVIEW ORDER**

**• CASE NO. 8983
•**

**TESTIMONY
OF
FAINA KASHTELIAN**

PUBLIC

**ON BEHALF OF THE STAFF
OF THE
PUBLIC SERVICE COMMISSION OF MARYLAND**

March 12, 2004

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INTRODUCTION AND PURPOSE OF TESTIMONY

Q1. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A1. My name is Faina Kashtelyan. I am a Regulatory Economist in the Telecommunications Division of the Public Service Commission of Maryland. My business address is 6 St. Paul Street, Baltimore, MD, 21202.

Q2. WOULD YOU STATE YOUR BACKGROUND AND EXPERIENCE?

A2. My background and experience are included as Attachment A.

Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A3. The purpose of my testimony is to describe the analysis performed by Staff in response to the dedicated transport portion of the Federal Communications Commission's ("FCC") Triennial Review Order ("TRO")¹. The main areas this testimony will address are the definitions of dedicated transport, positions of the parties, Staff analysis and interpretation of the data, the process Staff used to

¹ *In the Matter of the Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, CC Docket Nos. 01-338, 96-98, 98-147, FCC 03-36 (Rel. August 21, 2003) TRO, ¶360.

1 perform its impairment analysis, and the conclusions Staff reached relative to
2 the presence or absence of impairment for dedicated transport in Maryland.
3

4 **STAFF'S CONCLUSIONS**

5
6 **Q4. WHAT DID YOU CONCLUDE AS A RESULT OF YOUR DEDICATED**
7 **TRANSPORT EVALUATION AND IMPAIRMENT TEST?**

8
9 **A4.** Staff concludes that there is insufficient evidence to overcome the FCC's
10 presumptions of impairment. No routes were found that satisfy the FCC's self-
11 provisioning trigger, where three or more competitive carriers each have
12 deployed DS3 or dark fiber facilities on a particular route. Therefore, Staff
13 concludes that DS3 and dark fiber dedicated transport continues to be impaired
14 from the perspective of the self-provisioning trigger analysis.
15

16 No routes were found that satisfy the FCC's wholesale facilities trigger, where
17 two or more competitive carriers each have deployed DS1, DS3, or dark fiber
18 facilities on a particular route.² Therefore, Staff also finds impairment for DS1,
19 DS3, and dark fiber dedicated transport from the perspective of the wholesale
20 facilities trigger analysis.

² There was one route that could potentially satisfy the TRO wholesale trigger. This conclusion could be drawn if more supporting data is provided.

STATE'S ROLE IN THE PROCEEDING

Q5. WHAT ARE THE FCC FINDINGS WITH RESPECT TO DEDICATED TRANSPORT?

A5. At the national level the FCC found that Competitive Local Exchange Carriers ("CLECs") are not impaired without unbundled OCn level transport. Furthermore, at the national level, the FCC found that competitive carriers are impaired without access to dark fiber, DS3, and DS1 transport until a state determines that unbundled transport for a particular capacity is no longer required on a specific route.³

Q6. WHAT IS THE COMMISSION'S ROLE IN THE FCC's TRO?

A6. The FCC delegated to the states the responsibility to determine whether evidence exists to overcome the FCC presumption of impairment for dedicated transport. Verizon Maryland Inc. ("VMD" or "Verizon") has petitioned this Commission to examine two triggers. The "self-provisioning trigger," is met when three or more unaffiliated competing carriers have deployed dark fiber or DS3

³ TRO ¶ 359.

1 transport along a specified route⁴ and satisfy conditions outlined in FCC Rules.⁵

2 The "wholesale facilities trigger," is met when two or more unaffiliated wholesale
3 transport providers offer dark fiber, DS3 and DS1 transport on a generally avail-
4 able basis along a specified route. In future reviews the state may also be re-
5 quired to perform the "potential deployment test," which examines whether or
6 not a specific DS1, DS3, or dark fiber transport route is suitable for "multiple
7 competitive supply " based on certain economic and engineering factors along
8 the specific route". States that conduct this review need only address routes for
9 which there is relevant evidence in the proceeding that the route satisfies one of
10 the triggers."⁷ The Commission is not required to perform the potential for self-
11 provisioning analysis during this proceeding because no party has raised this is-
12 sue.

13
14 **DEDICATED TRANSPORT OVERVIEW**

15
16 **Q7. HOW DOES THE FCC DEFINE A ROUTE?**

17
18 **A7.** The FCC defines a route "as a connection between wire center or switch "A"
19 and wire center or switch "Z". If, on the incumbent LEC's network, a transport
20 circuit from "A" to "Z" passes through an intermediate wire center "X", the

⁴ TRO, ¶ 405.

⁵ TRO, Appendix B

⁶ TRO, ¶ 410.

1 competitive providers must offer service connecting wire centers "A" and "Z" but
2 do not have to mirror the network path of the incumbent LEC through wire
3 center "X".⁷

4
5 **Q8. HOW DOES THE FCC DEFINE DEDICATED TRANSPORT IN THE TRO?**

6
7 **A8.** The FCC defined dedicated transport as the "transmission facilities connecting
8 incumbent LEC switches and wire centers within a LATA"

9
10 **Q9. HOW HAS THE FCC'S DEFINITION OF DEDICATED TRANSPORT EVOLVED**
11 **OVER TIME?**

12
13 **A9.** In the UNE Remand Order,¹⁰ the FCC defined dedicated transport as
14 "incumbent LEC transmission facilities dedicated to a particular customer or
15 carrier that provide telecommunications between wire centers owned by
16 incumbent LECs or requesting telecommunications carriers, or between
17 switches owned by incumbent LECs or requesting telecommunications carriers."

18 ¹¹ The FCC noted that incumbent LECs must provide access to transport
19 capabilities and offer interconnection at technically feasible points for DS1, DS3,

⁷ TRO, ¶ 517.

⁸ TRO, ¶ 401.

⁹ TRO ¶ 365.

¹⁰ *In the Matter of the Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order, FCC Doc. No. 96-98, FCC 99-238 (Rel. Nov. 5, 1999). ("UNE Remand Order").

¹¹ UNE Remand Order, ¶323.

1 and OCn facilities. The FCC reaffirmed that "the definition of dedicated transport
2 set forth in the Local Competition First Report and Order"¹² includes all
3 technically feasible capacity-related services such as DS1-DS3 and OC3-OC96
4 dedicated transport services."¹³ The FCC modified its rules to "clarify that
5 incumbent LEC must unbundle DS1 through OC192"¹⁴ dedicated transport
6 offerings and such higher capacities as evolve over time."¹⁵ The definition of
7 dedicated transport set forth in the Local Competition Order has been modified
8 to include dark fiber. "Dark fiber is unactivated fiber optic cable, deployed by a
9 carrier, that has not been activated through connections to optronics that light it,
10 and thereby render it capable of carrying communications."¹⁶ The latest
11 definition of dedicated transport the FCC adapted in its TRO, in which the
12 definition of dedicated transport is limited to include only "... those transmission
13 facilities connecting incumbent LEC switches or wire centers within a LATA."¹⁷

14
15 **Q10. WHAT DOES BACKHAUL MEAN AND HOW DOES IT DIFFER FROM**
16 **DEDICATED TRANSPORT?**
17

¹² *In the Matter of the Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, First Report and Order, FCC Doc. No. 96-98 & 95-185, FCC 96-325 (Rel. August 8, 1996). ("Local Competition Order")

¹³ *Third Report and Order*, ¶ 323.

¹⁴ See Attachment FK-B – Transmission Facilities Hierarchy

¹⁵ UNE Remand Order, ¶323.

¹⁶ TRO, ¶381.

¹⁷ TRO, ¶ 365.

1 **A10.** Backhaul occurs when a communications channel takes traffic beyond its
2 destination and back.¹⁸ In transport networks, backhauling is a technique used
3 to reduce the expense of connecting remote facilities such as a collocation site
4 to the CLECs own network and/or switch. The FCC acknowledges that CLECs
5 use transport links including unbundled transport connecting ILEC switches or
6 wire centers to carry their traffic to and from their end users. In this application,
7 a CLEC transport facility between ILEC wire centers backhauls traffic even
8 though ILEC facilities along the same route could be considered a dedicated
9 transport circuit. "In order to access UNEs, including transmission between
10 incumbent LEC switches or wire centers, while providing their own switching
11 and other equipment, competitive LECs require a transmission link from the
12 UNEs on the incumbent LEC network to their own equipment located
13 elsewhere. Competitive LECs use these transmission connections between
14 incumbent LEC networks and their own networks both for interconnection and to
15 backhaul traffic."¹⁹

16
17 **Q11. WHAT IS VMD'S VIEW OF DEDICATED TRANSPORT?**

18
19 **A11.** VMD defines dedicated transport as "facilities dedicated to a particular customer
20 or competitive carrier that it uses for transmission among incumbent LEC cen-

¹⁸ Newton's Telecom Dictionary, 17th Updated and Expanded Edition

¹⁹ TRO, ¶ 365.

1 tral offices and tandem offices."²⁰ This is a partial quote of the definition of
2 transport found in ¶361 of the TRO. The FCC continued this statement to add
3 that "competing carriers generally use interoffice transport as a means to aggre-
4 gate end-user traffic to achieve economies of scale. They do so by using dedi-
5 cated transport to carry traffic from their end users loops, often terminating at
6 incumbent LEC central offices, through other central offices to a point of aggre-
7 gation. ...[T]he traffic is carried to the competitor's switch or other equip-
8 ment..."²¹

9
10 **Q12. WHAT IS THE CLECS' VIEW OF DEDICATED TRANSPORT?**

11
12 **A12.** CLECs define dedicated transport as "the unswitched connection between two
13 incumbent buildings."²² Following the CLEC's rationale, dedicated transport
14 must be offered between two wire centers in question without an intervening
15 switch. In addition, the specific type of transport must be defined not only in
16 terms of the capacity of the route, but also in terms of the type of traffic that is
17 being transported along the route.

18
19 **Q13. HOW DOES STAFF VIEW DEDICATED TRANSPORT?**

20

²⁰ VMD Testimony, p.30

²¹ TRO, ¶ 361.

²² AT&T Testimony, p. 83. This is AT&T's definition of dedicated transport and appears to be representative of other CLECs.

1 **A13.** The terminology that is used in discussions regarding transport is as much an art
2 as it is a science. For purposes of simplicity, dedicated transport means that a
3 transport facility carries *dedicated traffic from one point in a network to another*
4 *point in a network.* The route may or may not pass through an intermediate wire
5 center, and if it does it would not be connected to a switch in that intermediate
6 wire center. If it did connect to a switch in the intermediate wire center it would
7 no longer be considered to be dedicated transport, but would be considered to
8 be switched transport. The FCC defines dedicated transport as the connections
9 between the incumbent LEC's switches or wire centers. A switch is "a
10 mechanical, electrical or electronic device which opens or closes circuits,
11 completes or breaks an electrical path, or selects paths or circuits".²³ A
12 switching center is an End Office or Central Office, a building within which a
13 switch is located with other equipment. Hence, the term switching center may
14 sometimes be interchanged with the term central office to imply the same
15 meaning. The term switch is often used in the context of wire center or central
16 office to mean a place or a building where the switch-device is located and may
17 be used interchangeably with the term central office. In its definition of
18 dedicated transport, the FCC used the term "switches and wire centers."²⁴ Staff
19 interprets the term switches in the context of the FCC's TRO to imply "switching
20 center". Consequently, Staff's definition for dedicated transport is those

²³ Newton's Telecom Dictionary, 17th updated and Expanded Edition

²⁴ TRO, ¶ 366.

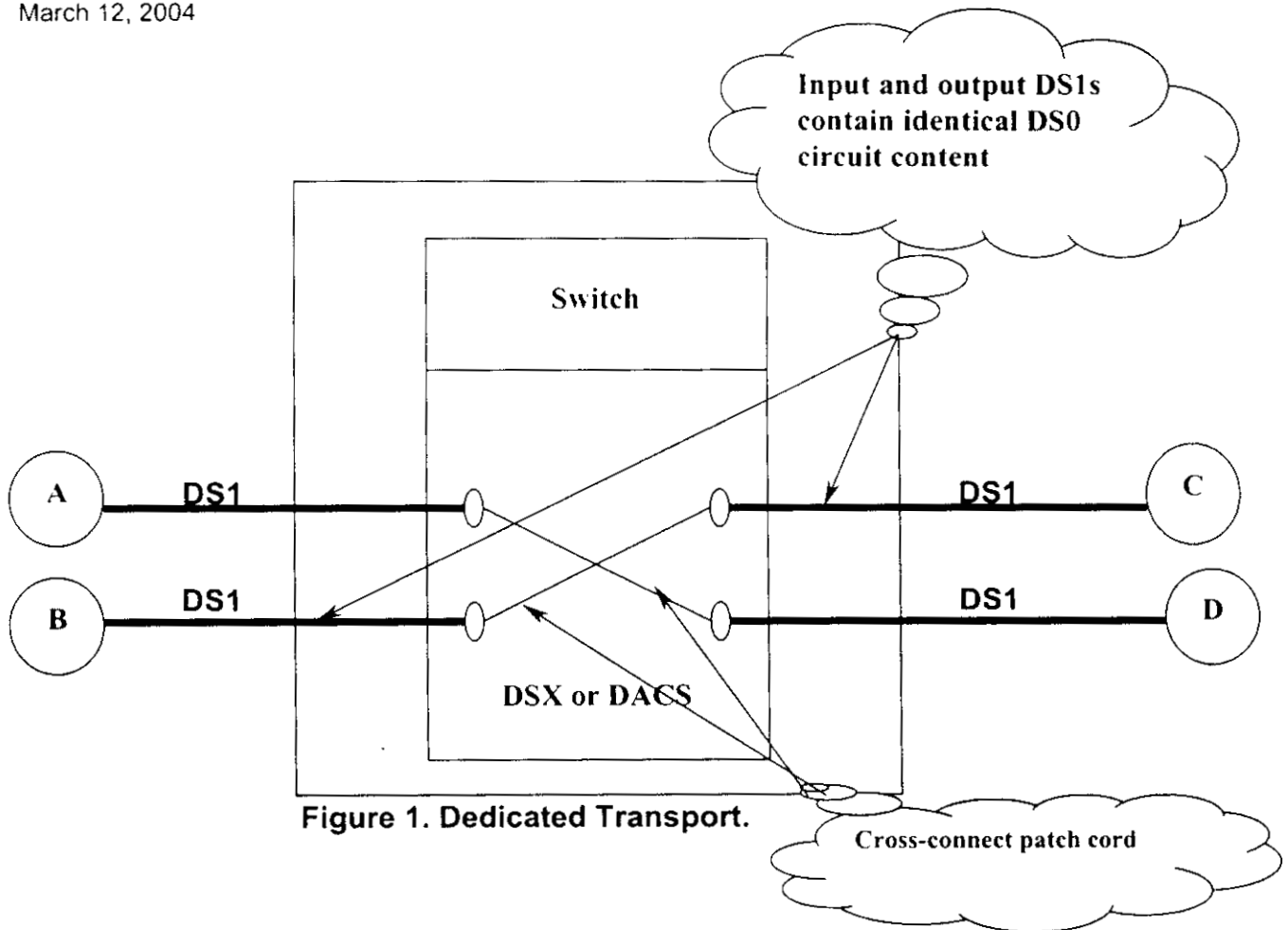
1 transmission facilities that connect incumbent LEC switching centers and wire
2 centers.

3
4 **Q14. HOW DOES SWITCHED TRANSPORT DIFFER FROM DEDICATED**
5 **TRANSPORT?**

6
7 **A14.** There are two ways the traffic may be handled when it reaches a wire center,
8 which are depicted in figures 1 and 2. Figure 1 depicts dedicated transport,
9 which provides a two-point transmission path on a directly connected basis and
10 where there is no switching interposed along the transport route. Figure 2 de-
11 picts switched transport, which is the transmission of traffic, which passes
12 through an intermediary device – a switch. Figure 1 demonstrates nodes on a
13 network A, B, C, and D, which are connected via a route. The traffic is carried
14 over a DS1 facility from location A to location D, for example. DS1 facilities con-
15 nected via DSX or DACS²⁵ would have the potential to be considered dedicated
16 connections by the token that there would be no circuit switching performed on
17 these routes. The dedicated transport is characterized by DS1 circuits that are
18 not interrupted by a switch along the A to D route.

19
20

²⁵ DACS – Digital Access and Cross-connect System, the manual equivalent a digital switching device for routing and switching T-1 lines, and DS0 portions of lines, among multiple T-1 ports. A DACS is in essence a **MANUAL** equivalent of a T-1 switch that does not consider or operate based on the circuit content.



In Figure 2 input DS 1 facilities from A or B enter the DSX or the DACS panel in a wire center, which then connect the facilities to a switch. In the switch the DS1 is de-aggregated to 24 individual DS0 circuits and is re-aggregated back into a DS1. Output DS1 facilities to C and D contain different DS0 circuits than the input DS1s.

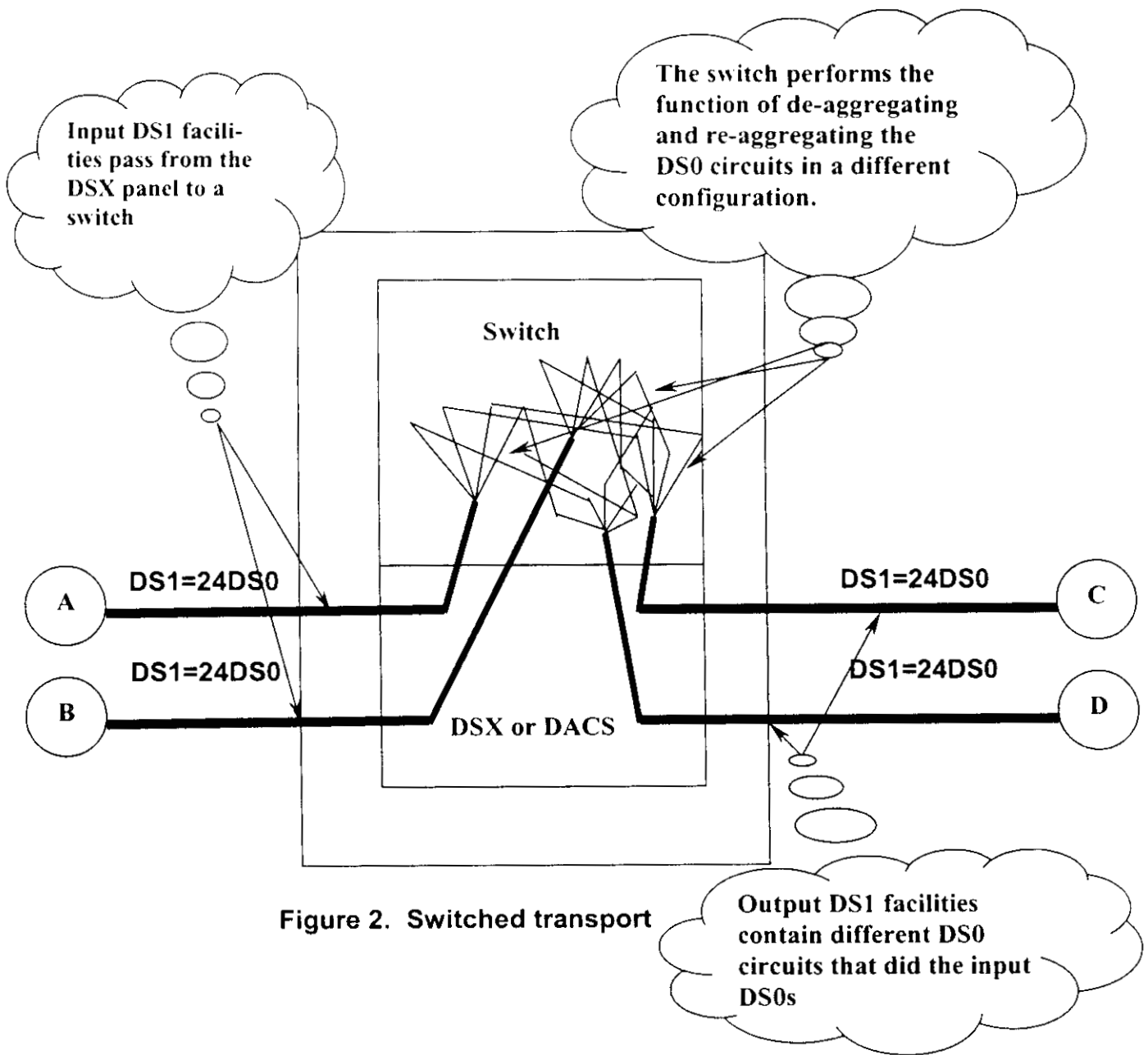


Figure 2. Switched transport

For simplicity I illustrated an example of electrical digital facilities, however, for fiber-optic systems, the architecture and the concept are the same. The difference is in the nomenclature used. For example, instead of DS1 facilities, there

1 could be OC12 facilities connected via a fiber patch cord at an LGX (light guide
2 cross-connect) panel which is the fiber equivalent of an electrical DSX panel.

3 It is important to note that it doesn't matter whether the DSX or DACS is used, if
4 the circuit resides on the DSX or DACS and is not interrupted, it could be con-
5 sidered dedicated transport. However, if a circuit in any way touches the switch,
6 it should no longer be considered dedicated. It is also important to note that
7 with a DACS it is possible to get the rearrangements like one would expect from
8 passing through a switch, yet the circuit is never interrupted and thus is still
9 dedicated.

10
11 **Q15. WHY DOES STAFF BELIEVE THAT SWITCHED TRANSPORT DOES NOT**
12 **QUALIFY FOR THE FCC TRIGGER ANALYSIS WHEN IN FACT THE FCC**
13 **ALLOWS FOR BOTH SWITCH AND WIRE CENTER CONNECTIVITY?**

14
15 **A15.** Staff believes that FCC used the term "switch" in the context of "switching
16 center", and therefore, the use of the term "switch" in its definition of dedicated
17 transport is synonymous with the term "wire center". If a transport route is
18 interrupted by at least one switch, it is no longer considered dedicated because
19 the traffic after passing through a switch will not flow via the same circuits as it
20 did before it entered the switch. Therefore, switched transport should not be
21 considered in the dedicated transport impairment analysis.

22

1 **Q16. WHY WOULD A CARRIER CHOOSE TO USE SWITCHED TRANSPORT IF**
2 **DEDICATED TRANSPORT IS LESS EXPENSIVE?**

3
4 **A16.** If a carrier does not have large economies of scope and scale the carrier would
5 chose to utilize switched transport. A carrier may not have enough customers in
6 each location to utilize fully the capacity of dedicated facilities. Therefore, a
7 competitive carrier will choose to collect and aggregate traffic from different
8 locations to backhaul the traffic to its own switch.

9
10 **Q17. WHY DOES VMD USE DEDICATED TRANSPORT IF SWITCHED**
11 **TRANSPORT IS SO MUCH MORE FLEXIBLE?**

12
13 **A17.** VMD uses dedicated transport because it benefits from large economies of
14 scale and scope that few if any competitive carriers enjoy. VMD has large
15 volumes of customers that justify the use of dedicated facilities because those
16 facilities will be used at their full capacity.

17
18 **Q18. WHEN DOES IT MAKE SENSE FOR A CARRIER TO USE DEDICATED**
19 **TRANSPORT RATHER THAN SWITCHED TRANSPORT?**

1 **A18.** CLECs consider a number of factors, when deciding which type of transport to
2 use. A carrier considers the size of trunk routes, the volume of traffic, how
3 many nodes it has in its network, and the availability of affordable facilities
4 between nodes on its network. To determine affordability of facilities, a carrier
5 has to evaluate whether it is more economical to build its own fiber routes, pick
6 up traffic from several collocations and backhaul it to its switch than to lease
7 UNE-P arrangements. A CLEC evaluates all its options before it makes any
8 kind of business decision, which is driven by the costs each carrier faces in a
9 market.

10
11 **Q19. DOES STAFF AGREE THAT THE PRESENCE OF FIBER FACILITIES IN**
12 **MULTIPLE LOCATIONS IS INDICATIVE OF A CLEC'S ABILITY TO PROVIDE**
13 **DEDICATED TRANSPORT BETWEEN THOSE POINTS?**

14
15 **A19.** No. Verizon claims that if "there are fiber-based facilities in two Verizon wire
16 centers in a LATA, it is very reasonable to assume that those fiber facilities are
17 part of a CLEC-operated ring and that traffic can be routed from one Verizon
18 wire center to the other. It is also reasonable to assume that these CLEC-
19 operated fiber rings connect to the CLEC's POP, and that traffic can flow to and
20 from all parts of the carrier's network through the POP."²⁶ Staff disagrees with
21 Verizon. Although a physical fiber path between two points (A and Z) may exist,

1 it is not necessarily true that the fiber paths culminate in rings that are
2 interconnected with each other. To identify the collocation arrangements for a
3 given CLEC via a physical inspection and to declare that dedicated transport
4 routes "exist" between each pair of collocation arrangements because fiber optic
5 facilities are present in the collocation arrangement is not persuasive. Verizon's
6 methodology is inadequate under the FCC's requirements because it is based
7 on assumptions that the CLEC in question *actually owns transport facilities or is*
8 *"currently providing"* dedicated transport service between two of Verizon's wire
9 centers. Verizon relies on an assumption that a CLEC may have its own
10 transmission facilities that run through two separate collocation arrangements in
11 two separate Verizon wire centers, and does not attempt to address the
12 possibility that the CLEC facilities could alternatively be used to aggregate and
13 backhaul traffic to the CLEC network. Limited evidence of collocation is not
14 sufficient to persuade Staff that dedicated transport routes exist. Staff needs
15 additional corroborative evidence from CLEC data to *reach a definitive*
16 *conclusion about the existence of such routes.*

17
18 CLECs, according to their testimony, generally use collocation arrangements to
19 aggregate unbundled mass market and enterprise loops, so there is a high
20 probability that the equipment and fiber optics associated with a collocation ar-
21 rangement is not being used to provide transport between two Verizon wire

²⁶ VMD Direct Testimony, Line 13, p. 43

centers. For instance, a CLEC may deploy equipment used to aggregate traffic and facilities in its wire center collocation arrangement, which is then back-hauled to the CLEC network. In this situation, fiber-optic facilities exiting the wire center would be routed directly or indirectly to a CLEC switch, even if passed through an intermediate collocation space. This disqualifies the facilities from being considered as dedicated transport.

The FCC requires only operationally ready transport facilities be considered in a trigger analysis. According to Verizon, “this condition is satisfied if a carrier has an operational collocation arrangement and has pulled fiber into that arrangement.”²⁷ Staff disagrees. In order to be operationally ready, transport facilities on a route must not only be “pulled into an arrangement”, but also must be connected to appropriate electronics and have the ability to carry telephone traffic.

TESTIMONY OF THE PARTIES

Q20. WHAT DID VMD PRESENT IN ITS DIRECT TESTIMONY?

A20. In its initial testimony Verizon claimed that there are “138 pairs of Verizon wire centers - or 138 direct routes - in the Baltimore and Washington LATAs that

meet one or both of the FCC's triggers."²⁸ Verizon asserted that there are 6 pairs of Verizon wire centers that meet one or both of the FCC's triggers in the Baltimore LATA and 132 pairs that meet one or both of the triggers in the Washington LATA. The Verizon data is presented below:

	Pairs of Verizon Wire Centers With ≥ 3 Self-Provisioning Carriers	Pairs of Verizon Wire Centers With ≥ 2 Wholesale Providers
Baltimore (LATA 238)	4	6
Maryland Portion of the Washington (LATA 236)	62	132
Total Number of Verizon Wire Center Pairs (or Direct Transport Routes)	66	138

Table 1. Data Presented in Verizon Initial Testimony

Verizon also states that 66 pairs of Verizon wire centers in the Baltimore and Washington LATAs meet the FCC's self-provisioning trigger for dark fiber and DS3 capacity facilities. Verizon also identifies CLECs with collocation arrangements that meet the FCC's triggers²⁹.

Q21. WHAT DID VERIZON PRESENT IN ITS SUPPLEMENTAL TESTIMONY?

²⁷ VMD Initial Testimony, line 8, p. 33.

²⁸ VMD Initial Testimony, line 9, p. 37

²⁹ VMD Initial Testimony, Attachments 7, 7.1, 8, 8.1.

A21. In its supplemental testimony Verizon presented additional routes that it claims meet the FCC triggers. Verizon has combined the CLECs' responses to the Commission's census data request with information used in its initial testimony. Based on the combined data, Verizon concludes that there are 258 routes that meet the FCC's triggers. This is an increase of 120 routes over the 138 routes claimed initially. Table 2 summarizes the number and composition of routes Verizon claims to meet the FCC's triggers. In the supplemental testimony Verizon changes the format of how it presents data. Verizon talks about routes meeting FCC's self-provisioning and wholesale triggers by capacity level. This is a change from its initial testimony, where Verizon presented routes by dividing them only into two categories – routes that meet self-provisioning trigger and routes that meet wholesale trigger, without separating them by capacity levels.

	Transport Routes Meeting the FCC's Self-Provisioning Trigger for Dark Fiber	Transport Routes Meeting the FCC's Self-Provisioning Trigger for DS3 Capacity	Transport Routes Meeting the FCC's Wholesale Trigger for Dark Fiber	Transport Routes Meeting the FCC's Wholesale Trigger for DS1 and DS3 Capacities
Baltimore (LATA 238)	4	4	29	29
Maryland Portion of the Washington (LATA 236)	71	91	223	236
Total Number of Verizon Wire Center Pairs (or Direct Transport Routes)	75	95	252	258

Table 2. Data Presented in Verizon Supplemental Testimony.

Q22. WHAT DID EACH OF THE CLECS PRESENT IN THEIR TESTIMONY?

A22. Summaries of positions of parties can be found in Attachment FK-C.

DATA ANALYSIS AND INTERPRETATION

Q23. WHAT DO THE RESPONSES TO THE DATA REQUEST SUGGEST ABOUT THE WAY THE RESPONDENTS' NETWORKS ARE STRUCTURED AND USED?

A23. The data suggests that CLECs operate mainly in an enterprise mode, and the facilities CLECs utilize are not pure transport. The data request responses suggest and CLEC testimonies support the idea that the CLECs' network architecture is a combination of fiber rings and DS3 facilities that connect their Verizon collocation facilities (used as aggregation sites) to their own CLEC networks. Star topology, also known as a hub and spoke topology, is a network layout or design, in which each node is connected to a central hub, where the CLEC switch is located. The hub establishes, maintains and terminates all connections between the nodes. Traffic is aggregated and backhauled from the various CLEC collocation facilities to a CLEC switch, where the circuits in the transport facilities are de-aggregated and re-aggregated by the CLEC switch to be sent to a final destination.